

30. The composition of claim 29, wherein said virulent strain is *M. tuberculosis* H37Rv or *M. tuberculosis Erdman* and said avirulent strain is *M. bovis* BCG.

31. The composition of claim 30 wherein said protein is differentially expressed in *M. tuberculosis* H37Rv or *M. tuberculosis Erdman* as compared to *M. bovis* BCG.

32. The composition of claim 27, wherein said protein is selected from the group consisting of isopropyl malate synthase (Rv3710), s-adenosylmethionine synthase metK (Rv1392), succinyl-CoA synthase  $\alpha$ -chain sucD (Rv0952), oxidoreductase of aldo/keto reductase family (Rv2971), oxidoreductase (Rv0068), elongation factor G (Rv0120c), uridylate kinase (Rv2883c), ABC-type transporter (Rv1463), short chain dehydrogenase/reductase family protein (Rv1856c), 1,3,4,6-tetrachloro-1,4,-cyclohexadiene hydrolase (Rv2579), phosphoribosylaminoimidazole carboxylase catalytic subunit (Rv3275c), hypothetical protein (Rv2557), and hypothetical protein (Rv3407), hypothetical protein (Rv3881c), hypothetical protein (Rv2449c), hypothetical protein (Rv0036c), hypothetical protein (Rv2005c) and transcriptional regulator (Crp/Fnr family) (Rv3676).

33. The composition comprising at least one differentially expressed protein of claim 27, wherein said differentially expressed protein is biochemically modified, biophysically modified, recombinantly modified or a combination thereof.

34. A composition comprising an antigenic fragment of the protein of claim 27.

35. A fusion protein comprising a protein of claim 27, an antigenic fragment of said protein or a combination thereof.

36. A fusion protein comprising at least two proteins of claim 27, at least one antigenic fragment of the protein of claim 27 or a combination thereof.

37. The fusion protein of claim 35, wherein said fusion protein comprises an immunostimulatory molecule.

38. The fusion protein of claim 36, wherein said fusion protein comprises an immunostimulatory molecule.

39. The fusion protein of claim 35, wherein said fusion protein comprises a molecule capable of optimizing antigen processing.

40. The fusion protein of claim 36, wherein said fusion protein comprises a molecule capable of optimizing antigen processing.

41. A composition comprising at least one fusion protein of claim 35.

42. A composition comprising at least one fusion protein of claim 37.

43. A composition comprising at least one fusion protein of claim 39.

44. A nucleic acid molecule coding for a protein of claim 27, an antigenic fragment of said protein, a fusion protein comprising said protein or said antigenic fragment or a combination thereof.

45. A composition comprising at least one nucleic acid molecule of claim 44.

46. An antibody or a fragment or a derivative thereof directed against a) a protein which is differentially expressed in a virulent strain as compared to an avirulent strain of the genus *Mycobacterium*, b) an antigenic fragment of said protein, c) a fusion protein comprising said protein, an antigenic fragment of said protein or a combination thereof, or d) the nucleic acid molecule coding for said protein, said antigenic fragment of said protein or said fusion protein.

47. A composition comprising at least one antibody of claim 46.

48. A composition comprising a composition selected from the group consisting of: a) at least one protein which is differentially expressed in a virulent strain as compared to an avirulent strain of the genus *Mycobacterium*; b) an antigenic fragment of said protein; c) a fusion protein comprising at least one of said protein or an antigenic fragment of said protein, d) a nucleic acid molecule coding for said protein, said antigenic fragment of said protein, a fusion protein comprising said protein, an antigenic fragment of said protein or a combination thereof or e) at least one antibody or

a fragment or a derivative thereof of claim 46, wherein said composition is a pharmaceutical composition further comprising, optionally, a pharmaceutically acceptable carrier.

49. The composition of claim 48, wherein said composition comprises a pharmaceutically acceptable carrier and said composition is a vaccine.

50. A composition comprising a composition comprising selected from the group consisting of: a) at least one protein which is differentially expressed in a virulent strain as compared to an avirulent strain of the genus *Mycobacterium*; b) an antigenic fragment of said protein; c) a fusion protein comprising at least one of said protein or an antigenic fragment of said protein, d) a nucleic acid molecule coding for said protein, said antigenic fragment of said protein, a fusion protein comprising said protein, an antigenic fragment of said protein or a combination thereof or e) at least one antibody or a fragment or a derivative thereof of claim 46, wherein said composition is a diagnostic composition further comprising, optionally, suitable means for detection.

51. A method for the production of a vaccine against a virulent strain of the genus *Mycobacterium* comprising the steps of

(a) recombinantly expressing a differentially expressed protein of claim 27, an antigenic fragment of said protein, or a fusion protein comprising said protein, an antigenic fragment of said protein or a combination thereof; and

(b) combining said recombinantly expressed differentially expressed protein, said antigenic fragment or said fusion protein with a pharmaceutically acceptable carrier.

52. A method for the production of a vaccine against a virulent strain of the genus *Mycobacterium* comprising combining a vector comprising a nucleic acid molecule encoding a differentially expressed protein of claim 27, an antigenic fragment of said protein, or a fusion protein comprising said protein, an antigenic fragment of said protein or a combination thereof with a biologically acceptable carrier, wherein said nucleic acid molecule in said vector is placed under the control of an expression control sequence.

53. The method of claim 52, wherein a nucleic acid molecule encodes said protein, an antigenic fragment of said protein, or a fusion protein comprising said protein, an antigenic fragment of said protein or a combination thereof.

54. A method of preventing, ameliorating or treating a Mycobacterium induced disease comprising administering an effective amount of the vaccine of claim 49 to a subject to prevent, ameliorate or treat a Mycobacterium induced disease in said subject

55. The method of claim 54, wherein said Mycobacterium induced disease is selected from the group consisting of tuberculosis, leprosy, tropical skin ulcer, ulceration, abscess, granulomatous (skin) disease, pulmonary disease, lymphadenitis, and cutaneous and disseminated disease.

56. A method of detecting the presence of Mycobacterium in a sample, comprising contacting the composition of claim 50 with a sample suspected of containing at least one component associated with Mycobacterium, wherein said component comprises Mycobacterium, pathogenic fragments thereof or derivatives thereof, proteins thereof or polynucleotides encoding said Mycobacterium, fragments thereof, derivatives thereof or proteins thereof, and detecting the presence of at least one component in said sample.

57. The method of claim 56, wherein said detection of said component associated with Mycobacterium is indicative of Mycobacterium induced disease selected from the group consisting of tuberculosis, leprosy, tropical skin ulcer, ulceration, abscess, granulomatous (skin) disease, pulmonary disease, lymphadenitis, and cutaneous and disseminated disease.